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EXAMINER
SAINT CYR, LEONARD

ART UNIT	PAPER NUMBER
2626	

NOTIFICATION DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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	Application No.	Applicant(s)
	10/529,288	ITO ET AL.
Office Action Summary	Examiner	Art Unit	
	LEONARD SAINT CYR	2626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-19* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>25 March 2005</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date <u>03/25/05 and 02/14/07</u>.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 101

1.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1 – 15 are rejected under 35 USC 101 as not falling within one of the four statutory categories of invention. While the claims recite a series of steps to be performed, a statutory process under 35 USC 101 must be tied to another statutory category (such as a manufacture or a machine) or transform underlying subject matter (such as an article or material) to a different state or thing. Claims 1 – 15 appear to recite mental steps and do not identify the apparatus that accomplishes the method steps like "the sound generation method executed on a server computer" described in page 8, paragraph 5 of the specification. Thus, claims 1 - 15 do not define a statutory process.

Specification

2.   The abstract of the disclosure is objected to because it contains more than one paragraph. The abstract should be limited to a single paragraph on a separate sheet with the range of 50 to 500 words.

Correction is required. See MPEP § 608.01(b).

3.   The title of the invention is not descriptive. A new title is required that is clearly

indicative of the invention to which the claims are directed.

The following title is suggested: Sound Generation Method for Basic Information

having Chaos and Factal.

Claim Rejections - 35 USC § 103

4.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

5.   Claims 1 – 10, and 13 – 19 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Arai et al., (US PAP 2002/0156392) in view of Shiro et al., (JP-2002-

162968A).

As per claim 1, Arai et al., teach a sound generation ("sound off"; paragraph 26)

method comprising:

a basic information converting process, where basic information having a chaos

is converted to data that are numerically operable; a chaotic space generating process,

where a chaotic space is generated by calculating a chaos attractor on the basis of the

data, which have been converted by said basic information converting process ("the

trajectory of the status space is called the chaotic attractor"; paragraph 52).

However Arai et al., do not specifically teach a sound file is generated from the data in the chaotic space, which has been generated by said chaotic space generating process, in compliance with a predetermined sound generation rule.

Shiro et al., teach using chaos character of a fractal figure that generates music automatically combining the music data which carried out user specification out of music data (paragraph 0002).

Therefore, it would have been to one of ordinary skill in the art at the time the invention was made to generate music from chaos character as taught by Shiro et al., in Arai et al., because that would help expand the width of a variation (paragraph 4).

As per claim 2, Arai et al., teach a sound generation method comprising: a basic information converting process, where basic information having a fractal is converted to data that are numerically operable; a fractal space generating process, where a fractal space is generated by extracting a fractal feature on the basis of the data, which have been converted by said basic information converting process ("the frequency of the biological rhythm is extracted from a change in acceleration of the biological rhythm…the fractal analysis is carried out on the time-series frequencies of the biological analysis"; paragraphs 43, and 44).

However Arai et al., do not specifically teach a sound file is generated from the fractal space, which has been generated by said fractal space generating process, in compliance with a predetermined sound generation rule.

Shiro et al., teach using chaos character of a fractal figure that generates music automatically combining the music data which carried out user specification out of music data (paragraph 0002).

Therefore, it would have been to one of ordinary skill in the art at the time the invention was made to generate music from fractal analysis as taught by Shiro et al., in Arai et al., because that would help expand the width of a variation (paragraph 4).

As per claim 3, Arai et al., teach a sound generation method comprising:

a physiological signal converting process, where a signal chronologically generated from an individual informant is converted to data that are numerically operable; a chaotic space generating process, where a chaotic space is generated by calculating a chaos attractor on the basis of the data, which have been converted by said physiological signal converting process ("physiological function...the trajectory of the status space is called the chaotic attractor"; paragraphs 8 and 52).

However Arai et al., do not specifically teach a sound file is generated from the data in the chaotic space, which has been generated by said chaotic space generating process, in compliance with a predetermined sound generation rule.

Shiro et al., teach using chaos character of a fractal figure that generates music automatically combining the music data which carried out user specification out of music data (paragraph 0002).

Therefore, it would have been to one of ordinary skill in the art at the time the invention was made to generate music from chaos character as taught by Shiro et al., in Arai et al., because that would help expand the width of a variation (paragraph 4).

As per claim 4, Arai et al., teach a sound generation method comprising: a physiological signal converting process ("physiological function..."), where a signal chronologically generated from an individual informant is converted to data that are numerically operable; a fractal space generating process, where a fractal space is generated by extracting a feature of self-similarity on the basis of the data, which have been converted by said physiological signal converting process ("the frequency of the biological rhythm is extracted from a change in acceleration of the biological rhythm...the fractal analysis is carried out on the time-series frequencies of the biological analysis"; paragraphs 8, 43, and 44).

However Arai et al., do not specifically teach a sound file is generated from the fractal space, which has been generated by said fractal space generating process, in compliance with a predetermined sound generation rule.

Shiro et al., teach using chaos character of a fractal figure that generates music automatically combining the music data which carried out user specification out of music data (paragraph 0002).

Therefore, it would have been to one of ordinary skill in the art at the time the invention was made to generate music from fractal analysis as taught by Shiro et al., in Arai et al., because that would help expand the width of a variation (paragraph 4).

As per claims 5, and 6, Arai et al in view of Shiro et al., further disclose that said

physiological signal converting process comprises:

a physiological signal measuring process, which measures a physiological signal;

a frequency-analyzing process, which calculates the physiological signal data measured

by said physiological signal measuring process as numerical data for a plurality of

frequency bands (Arai et al; "physiological function...frequency of physical condition";

paragraph 14); and

a sound generating process, which corresponds to a nerve- descriptive

characteristic of the living body of said individual informant on a basis of said frequency-

analyzing process (Arai et al; "sound given off from the body" paragraph 26).

As per claim 7, Arai et al in view of Shiro et al., further disclose a condition-

evaluating process, which evaluates the condition of the mind and body of said

informant by comparing the numerical data, which have been calculated by said

frequency- analyzing process from the nerve-descriptive characteristic of the living body

of said individual informant (Arai et al; "reflect sensitively the condition of a wide range

of body and mind such as stress, fatigue, or a localized pain on the body"; paragraph

35); and

a section-changing process, which changes a plane that cuts through the chaos

attractor, in correspondence with the evaluation by said condition-evaluating process

(Arai et al; "the trajectory of the status space is called the chaotic attractor, allowing a

difference in structure of the multi-variable control system to be recognized as a

difference in trajectory of the chaotic attractor"; paragraph 52).

As per claim 8, Arai et al in view of Shiro et al., further disclose a condition-

evaluating process, which evaluates the condition of the mind and body of said

informant by comparing the numerical data, which have been calculated by said

frequency- analyzing process from the nerve-descriptive characteristic of the living body

of said individual informant (Arai et al; "reflect sensitively the condition of a wide range

of body and mind such as stress, fatigue, or a localized pain on the body"; paragraph

35); and

a scaling width modifying process, which modifies the scaling width for extracting

a fractal feature, in correspondence with the evaluation by said condition-evaluating

process (Arai et al; "the window **width h shows the scale** dependency of biological

rhythm data and reflects the performance of biological control"; paragraph 63).

As per claims 9, and 10, Arai et al., in view of Shiro et al., further disclose a

condition-inputting process, which has an interface to enable communication with the

informant providing said physiological signal so that conditions for the sound generation

can be input; and a generation-rule setting process, which sets said sound generation

rule in compliance with the conditions input by said condition-inputting process, so that

said sound generating process generates said sound file in compliance with the

generation rule, which has been set by said generation-rule setting process (Shiro et al;

"chaos character of a fractal figure that generates music automatically combining the music data which carried out user specification out of music data"; paragraph 0002).

As per claim 13, Arai et al in view of Shiro et al., further disclose that at one of pulse wave, electrocardiograph, brain wave, electromyogram and respiration is used as said physiological signal (Arai et al; "image information on the brain"; paragraph 0004, last three lines).

As per claims 14, and 15, Arai et al in view of Shiro et al., further disclose a computer-readable storage medium for storing a program to execute at least one of the sound generation methods set forth in claims 1 to 13, on a computer (Shiro et al; paragraph 0001).

As per claims 16, and 17, Arai et al., teach a stand-alone sound generation comprising:

means for measuring a physiological signal; means for measuring the condition of an individual informant who provides said physiological signal and listens to said sound ("reflect sensitively the condition of a wide range of body and mind such as stress, fatigue, or a localized pain on the body"; paragraph 35).

However, Arai et al., do not specifically teach a playback apparatus; a computer, which executes at least one of the sound generation methods set forth in claims 1 to 13; means for playing a sound generated by said sound generation method.

Shiro et al., teach a recording medium which recorded the method of generating

music automatically. When generating automatically the short music of about 4-8

vibrant tunes especially, for example generating automatically the incoming call notice

melody of portable communication terminals such as a cellular phone and PHS

(paragraphs 1, and 3).

Therefore, it would have been obvious to one of ordinary skill in the art at the

time the invention was made to play short music from portable communication terminals

as taught by Shiro et al., in Arai et al., because that would help play music generated

from the chaos character (Shiro et al; paragraph 2).

As per claims 18, and 19, Arai et al., in view of Shiro et al., teach a sound

generation and playback system comprising:

means for measuring a physiological signal ("physiological function"), which is

necessary for said sound generation method, and means for playing a sound (Arai et

al., paragraphs 8, and 35; Shiro et al., paragraph 3).

Arai et al., in view of Shiro et al., do not specifically teach a network

communication comprising a server computer, which executes at least one of the sound

generation methods set forth in claims 1 to 13; and means to be executed by a remote

computer, which is connected to said server computer through a computer network.

However, the examiner takes official notice that using a communication network

for measuring physiological signal is well known in the art. One having ordinary skill in

the art at the time the invention was made would have found it obvious to use

communication network in sound generation system in Arai et al., in view of Shiro et al.,

because that would make the system more convenient, so that individuals informants

don't have to be at the location of the sound generation system.

5.   Claims 11, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Arai et al., (US PAP 2002/0156392) in view of Shiro et al., (JP-2002-162968A),

and further in view of Sato et al., (US Patent 5,460,184).

As per claims 11, and 12, Arai et al., in view of Shiro et al., do not specifically

teach evaluating the condition of the mind and body by the ratio of alpha-wave

appearances in the brain waves.

Sato et al., teach a brain-wave spectrum integrating device for integrating the

brain-wave power spectrum extracted by the brain-wave extracting device, an alpha-

rhythm spectrum integrating device for integrating an .alpha.-rhythm spectrum

representing mental concentration power, and a mental-concentration calculating

device for calculating the ratio of the integrated value obtained with the .alpha.-rhythm

spectrum integrating device and the integrated value obtained with the brain-wave

spectrum integrating device (Sato et al.,; Abstract).

Therefore, it would have been obvious to one of ordinary skill in the art at the

time the invention was made to use alpha-wave ratio as taught by Sato et al., in Arai et

al., in view of Shiro et al., because that would help measure the degree of mental

concentration of a subject (Sato et al., Abstract, first two lines).

Conclusion

6.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure. Please see PTO-892-Form.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to LEONARD SAINT CYR whose telephone number is

(571) 272-4247. The examiner can normally be reached on Mon- Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Richemond Dorvil can be reached on (571) 272-7602. The fax phone

number for the organization where this application or proceeding is assigned is (571)-

273-8300.

Information regarding the status of an application may be obtained from the

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LS
11/06/08

/Richemond Dorvil/

Supervisory Patent Examiner, Art Unit 2626